

REMARKS/ARGUMENTS

In the Office Action mailed January 6, 2010, claims 1 and 5-7 were rejected. Additionally, claims 2-4 were objected to, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In response, Applicant hereby requests reconsideration of the application in view of the below-provided remarks. No claims are canceled.

For reference, claims 1 and 5-7 are amended. In particular, claim 1 is amended to recite a modulated intermediate frequency signal at an input of the first gain controller and a demodulated intermediate frequency signal at an input of the second gain controller. Claims 5-7 are each amended to recite similar language. These amendments are supported by the subject matter described in the specification at page 4, lines 15-18 (“first intermediate frequency amplifier 50 of which...an output is coupled to...control output 9”); page 3, lines 32-33 (“a control input 8 coupled to a control output 9”); page 4, lines 9-14 (“An input of a first gain controller 38...is coupled to control input 8”); and page 4, lines 18-21 (“an intermediate frequency demodulator stage 52, of which an output is coupled to...an input of a second gain controller 54”).

For reference, claims 9-17 are added. In particular, claims 9-11 are added to depend from independent claim 5 and to recite limitations similar to the limitations of claims 2-4, respectively. Similarly, claims 12-14 are added to depend from independent claim 6 and to recite limitations similar to the limitations of claims 2-4, respectively. Similarly, claims 15-17 are added to depend from independent claim 7 and to recite limitations similar to the limitations of claims 2-4, respectively. These claims are supported, for example, by the subject matter recited in claims 2-4.

Allowable Subject Matter

Applicant appreciates the Examiner’s review of the claims and determination that claims 2-4 recite allowable subject matter. In particular, the Office Action states that claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Since claims 9-11, 12-14, and 15-17 all recite limitations which are similar to the limitations of claims 2-4, Applicant respectfully submits that these claims should also be recognized as reciting allowable subject matter.

Claim Rejections under 35 U.S.C. 102

Claims 1 and 5-7 were rejected based on one or more cited references. The cited reference(s) relied on in these rejections include:

Fang (U.S. Pat. No. 6,118,499, hereinafter Fang)

In particular, claims 1 and 5-7 were rejected under 35 U.S.C. 102(b) as being anticipated by Fang. However, Applicant respectfully submits that these claims are patentable over Fang for the reasons provided below.

Independent Claim 1

Claim 1 is patentable over Fang because Fang does not disclose all of the limitations of the claim. Claim 1 recites:

A receiver (1) for receiving radio frequency signals and comprising
a first stage (3) for amplifying and tuning radio frequency signals
and for generating intermediate frequency signals;
a first gain controller (38) for controlling a gain of the first stage
(3);
a second stage (5) for amplifying and demodulating the
intermediate frequency signals;
a second gain controller (54) for controlling a gain of the second
stage (5); which first and second gain controllers (38,54) control the gains
independently from each other with the first gain controller to control the
gain of the first stage based on a modulated intermediate frequency signal
at an input of the first gain controller, and the second gain controller to
control the gain of the second stage based on a demodulated intermediate
frequency signal at an input of the second gain controller.
(Emphasis added.)

In contrast, Fang does not disclose all of the limitations of the claim because Fang does not disclose first and second gain controllers. Additionally, even if Fang were to

disclose first and second gain controllers, Fang does not disclose a first gain controller to control a gain of a first stage based on a modulated intermediate frequency at an input of the first gain controller.

1. Fang does not disclose first and second gain controllers.

As a preliminary matter, it should be noted that the reasoning presented in the Office Action mischaracterizes the actual disclosure of Fang. In support of the rejection, the Office Action appears to assert that the VCO 140 and the control circuit 190 purportedly control the gain of the narrow band amplifier 50 (the reference to amplifier 50 perhaps should have been to variable gain amplifier 30). Similarly, the Office Action appears to assert that the VCO 150 and the control circuit 190 purportedly control the gain of the variable gain amplifier 80. However, these assertions are not correct, because the VCOs 140 and 150 and the control circuit 190 do not control the gain of any of the amplifiers.

Rather, the VCOs 140 and 150 and the control circuit 190 merely facilitate phase locked loop (PLL) circuitry which synchronizes corresponding frequency-divided signals. Specifically, the VCO 140, the PLL synthesizer 160, and the reference crystal oscillator 180 constitute a PLL circuit (Fang, col. 3, lines 15-17) to synchronize the phases of a frequency-divided signal from the VCO 140 and a frequency-divided signal from the reference crystal oscillator 180 (Fang, col. 3, lines 42-48). A resulting local oscillation signal from the VCO 140 is input to the mixer 40. Fang, col. 3, lines 40-42. The local oscillation signal from the VCO 140 is not input to control any amplifiers. Therefore, the assertion in the Office Action that the VCO 140 purportedly functions as a first gain controller is inaccurate and is not consistent with the actual disclosure of Fang.

Similarly, the VCO 150, the PLL synthesizer 170, and the reference crystal oscillator 180 constitute another PLL circuit (Fang, col. 3, lines 17-19) to synchronize the phases of a frequency-divided signal from the VCO 150 and a frequency-divided signal from the reference crystal oscillator 180 (Fang, col. 4, lines 53-60). The resulting local oscillation signal from the VCO 150 is input to the mixer 70. Fang, col. 4, lines 51-53. The local oscillation signal from the VCO 150 is not input to control any amplifiers. Therefore, the assertion in the Office Action that the VCO 150 purportedly functions as a

second gain controller is inaccurate and is not consistent with the actual disclosure of Fang.

Moreover, Fang does not disclose first and second gain controllers. Fang merely describes a single automatic gain control (AGC) change-over switch 130. Fang, Fig. 1. The AGC change-over switch 130 produces two signals to control the gain/attenuation of the variable gain amplifiers 30 and 80. Fang, col. 6, lines 13-15. Thus, Fang merely describes a single controller to control both of the variable gain amplifiers. Even though the AGC change-over switch 130 uses two signals for the control, there is nevertheless only a single controller disclosed in Fang. Furthermore, Fang does not disclose any type of controller for the narrow band amplifier 50.

For the reasons presented above, Fang does not disclose all of the limitations of the claim because Fang does not disclose first and second gain controllers, as recited in the claim. Accordingly, Applicant respectfully asserts claim 1 is patentable over Fang because Fang does not disclose all of the limitations of the claim.

2. Fang does not disclose a modulated intermediate frequency at an input of the first gain controller.

As a separate basis for patentability, Fang also fails to disclose a first gain controller to control a gain of a first stage based on a modulated intermediate frequency at an input of the first gain controller. As explained above, Fang merely describes a single AGC change-over switch 130 to control the gain/attenuation of both of the variable gain amplifiers 30 and 80. The AGC change-over switch 130 receives an AGC signal from the demodulator 120. Fang, col. 6, lines 12-13. Thus, it appears that the AGC signal is based on a demodulated signal from the demodulator 120. Consequently, it appears that the AGC change-over switch 130 controls both of the variable gain amplifiers 30 and 80 based on a demodulated AGC signal, and the AGC change-over switch 130 does receive or use any modulated signals. Therefore, Fang does not disclose a modulated intermediate frequency at an input of the AGC change-over switch.

For the reasons presented above, Fang does not disclose all of the limitations of the claim because Fang does not disclose a first gain controller to control a gain of a first stage based on a modulated intermediate frequency at an input of the first gain controller,

as recited in the claim. Accordingly, Applicant respectfully asserts claim 1 is patentable over Fang because Fang does not disclose all of the limitations of the claim.

Independent Claims 5, 6, and 7

Applicant respectfully asserts independent claims 5, 6, and 7 are patentable over the cited reference at least for similar reasons to those stated above in regard to the rejection of independent claim 1. Each of these claims recites subject matter which is similar to the subject matter of claim 1 discussed above. Although the language of these claims differs from the language of claim 1, and the scope of each claim should be interpreted independently of other claims, Applicant respectfully asserts that the remarks provided above in regard to the rejection of claim 1 also apply to the rejections of these claims.

Dependent Claims

Claims 2-4 and 9-17 depend from and incorporate all of the limitations of the corresponding independent claims 1 and 5-7. Applicant respectfully asserts claims 2-4 and 9-17 are allowable based on an allowable base claim. Additionally, each of claims 2-4 and 9-17 may be allowable for further reasons.

CONCLUSION

Applicant respectfully requests reconsideration of the claims in view of the amendments and the remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-4019** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-4019** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,
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